Some results on (p, k) -extension of the hypergeometric functions

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Abstract

In this study, we investigate a new natural extension of hypergeometric functions with the two parameters p and k which is so called (p, k) -extended hypergeometric functions". In particular, we introduce the (p, k) -extended Gauss and Kummer (or confluent) hypergeometric functions. The basic properties of the (p, k) -extended Gauss and Kummer hypergeometric functions, including convergence properties, integral and derivative formulas, contiguous function relations and differential equations. Since the latter functions contain many of the familiar special functions as sub-cases, this extension is enriches theory of k -special functions.

Full Text

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